Hypercubing around COTS GigE

```
 62:     8192 bytes    545 times -->   4576.97 Mbps in     229.10 usec
 63:     8195 bytes    545 times -->   4410.98 Mbps in     237.81 usec
 64:    12285 bytes    525 times -->   4808.78 Mbps in     327.00 usec
 65:    12288 bytes    509 times -->   4949.95 Mbps in     317.75 usec
 66:    12291 bytes    524 times -->   4927.55 Mbps in     319.28 usec
 67:    16381 bytes    261 times -->   4966.26 Mbps in     422.20 usec
 68:    16384 bytes    296 times -->   5035.23 Mbps in     416.50 usec
 69:    16387 bytes    300 times -->   4993.62 Mbps in     420.04 usec
 70:    24573 bytes    297 times -->   5110.70 Mbps in     615.44 usec
 71:    24576 bytes    270 times -->   5165.47 Mbps in     608.99 usec
 72:    24579 bytes    273 times -->   5143.19 Mbps in     611.70 usec
 73:    32765 bytes    136 times -->   5094.44 Mbps in     823.24 usec
 74:    32768 bytes    151 times -->   5526.62 Mbps in     758.93 usec
 75:    32771 bytes    164 times -->   5042.57 Mbps in     831.85 usec
 76:    49149 bytes    150 times -->   4975.27 Mbps in    1264.47 usec
 77:    49152 bytes    131 times -->   4832.97 Mbps in    1301.78 usec
 78:    49155 bytes    128 times -->   5263.84 Mbps in    1195.29 usec
 79:    65533 bytes     69 times -->   4919.98 Mbps in    1704.93 usec
 80:    65536 bytes     73 times -->   4730.13 Mbps in    1773.44 usec
 81:    65539 bytes     70 times -->   4926.60 Mbps in    1702.79 usec
 82:    98301 bytes     73 times -->   4559.99 Mbps in    2759.33 usec
 83:    98304 bytes     60 times -->   4800.65 Mbps in    2621.09 usec
 84:    98307 bytes     63 times -->   4964.35 Mbps in    2534.73 usec
```

mpirun- np 16 NPmpi -B

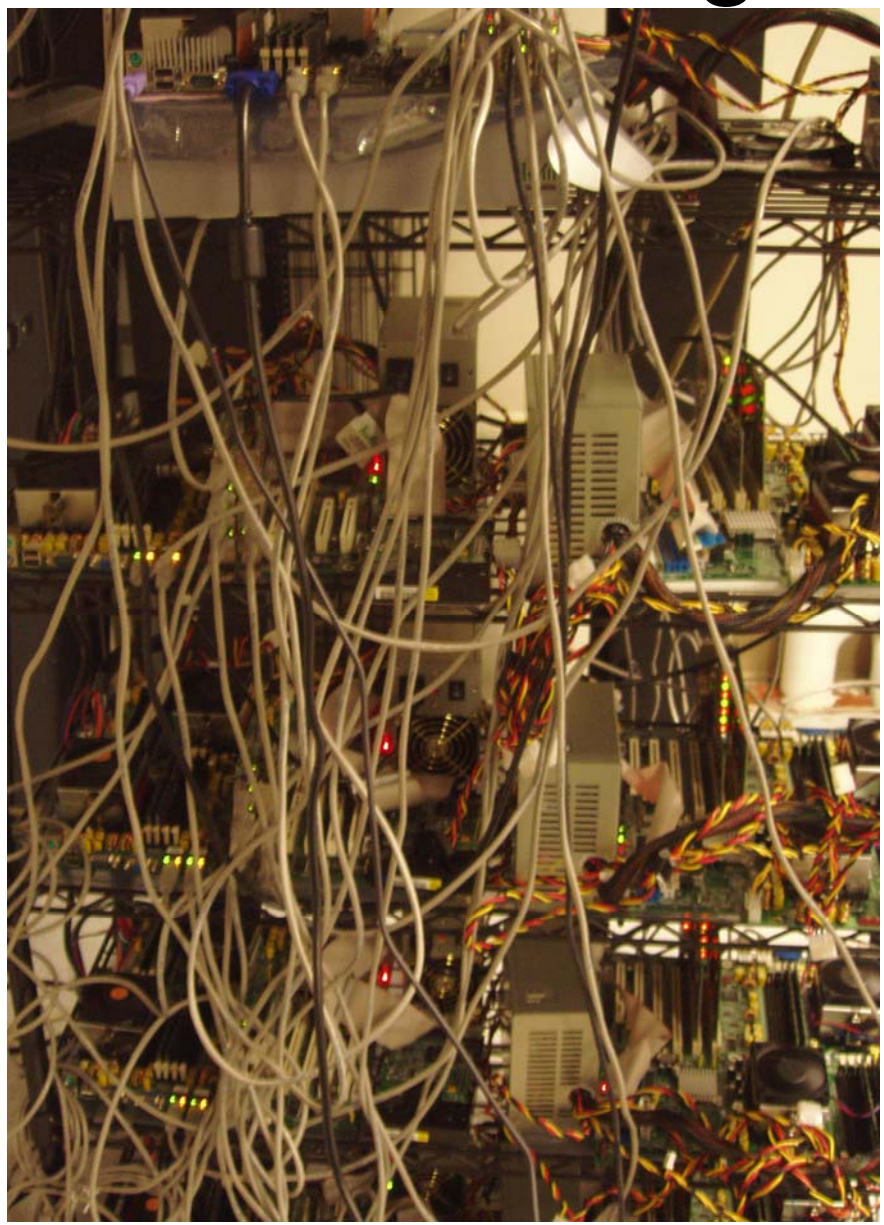
Limits; NIC (node) count, NIC Bandwidth, Bus Bandwidth

Hypercubing around COTS GigE

Bandwidth in Gbps

Test	Peak	Avg
pktgen	10.0	7.9
NPtcp	7.8	5.5
NPtcp 13	7.2	4.4
NPmpi	5.5	4.1
Netperf	6.5	

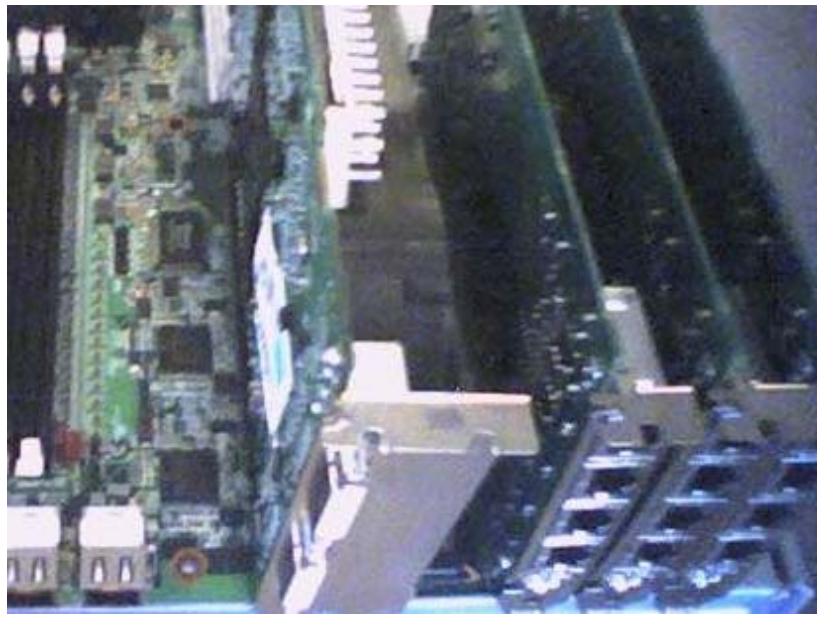
CPU usage 100% at peak



Hypercubing around COTS GigE

NAS Suite

Test	t(s)	MF/ p
CG	151	59.03
BT	316	566.72
EP	92	5.82
LU	323	393.80
IS	21	3.90
SP	445	203.45
MG	30	314.85



If you require maximum bandwidth from each node, this is a good approach. But the CPU usage and latencies are such that this is not a useful solution for most parallel applications. If you scale your performance by upgrading CPUs and GPUs, this is a reasonable alternative to traditional switched networks.